

GEOLOGIC HAZARD REPORTS FOR SCHOOLS

IR A-4

Reference: The 2001 California Building Standards Administrative Code,
Section 4-317(e),
2001 California Building Code (CBC) Sections 1629A.4 and 1804A.1, and
Education Code Section 17212 and 17212.5.
Discipline: Structural

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This Interpretation of Regulation (IR) is intended for use by the Division of the State Architect (DSA) staff, and as a resource for design professionals, to promote more uniform statewide criteria for plan review and construction inspection of projects within the purview of DSA. This IR indicates an acceptable method for achieving compliance with applicable codes and regulations, although other methods proposed by design professionals may be considered by DSA.

This IR is reviewed on a regular basis and is subject to revision at any time. Please check the DSA web site for currently effective IR's. Only IR's listed in the document at <http://www.dsa.dgs.ca.gov/Publications/default.htm> (click on "DSA Interpretations of Regulations Manual") at the time of plan submittal to DSA are considered applicable.

Purpose: The purpose of this Interpretation of Regulations (IR) is to describe the requirements for the submission of a geologic hazard report to the Division of the State Architect (DSA) for school projects.

1. **General.** A geologic hazard is any geologic condition that is a potential danger to life or property. Geologic hazards include, but are not limited to, *earthquake shaking, surface rupture, liquefaction, and landslides*.
- 1.1 The 2001 California Building Code (CBC), Section 4-317(e) includes requirements for the performance of soils investigation studies and geologic hazard studies for construction of, or alterations to, school buildings. Note that "Geotechnical Reports" (or soils investigation reports) often include soils studies only and may not include complete geologic hazard studies.
2. **Projects Requiring Geologic Hazard Reports.** A geologic hazard report shall be submitted to DSA with the project application for any project located:
 - 2.1 On any new site (not previously used for school purposes).
 - 2.2 Within any "state mandated geologic hazard zone" which include:
 - Earthquake Fault Zones (Public Resources Code (PRC) Div. 2, Ch. 7.5, Sec. 2621 et seq.),
 - Seismic Hazard Zones for Landslides and Liquefaction (PRC Div 2, Ch. 7.8, Sec. 2690 et. seq.) and,
 - 2.3 Within an area identified as a geologic hazard in the Safety Element of the Local General Plan.
 - 2.4 On existing school sites deemed appropriate by DSA, including those sites with addition projects, where a potential geologic hazard has been previously identified.
3. **Projects Not Requiring Geologic Hazard Reports.** A geologic hazard report will not be necessary for projects on existing school sites in any of the situations described in paragraph 3.1, 3.2, or 3.3:

3.1 When the design professional in general responsible charge of the project signs a "Geo-Hazards Statement" on the Application for Approval of Plans and Specifications (Form DSA-1) certifying that the following three conditions are satisfied:

- The project is not located within a state mandated geologic hazard zone,
- The project is not located within an area identified as a geologic hazard in the safety element of the local general plan, and
- The project is not located within an area where a potential geologic hazard has been identified by a previous geologic hazard report.

3.2 The project includes only:

- alterations and the estimated cost of construction is less than 50% of the replacement cost of the structure, and/or
- one-story relocatable buildings that have a floor area of less than 2,160 square feet, and/or
- additions less than 2000 square feet in floor area.

3.3 The project is located on a school site for which adequate studies have already been made. Documentation of prior studies must be included with the project submittal to DSA.

4. Scope of Geologic Hazard Studies. For guidance in conducting a study and reporting evaluations and recommendations, refer to:

- Special Publication 117, Guidelines for Evaluating and Mitigating Seismic Hazards in California (1997)
- Special Publication 42 Fault-Rupture Hazard Zones in California (1997 revised edition, including supplements 1 and 2 added in 1999)

both published by the Department of Conservation and available to order from

<http://www.consrv.ca.gov/CGS/information/publications/index.htm>

5. Reporting Procedures. Two copies of the geologic hazard report must be submitted to DSA along with the initial project application. If a project is submitted without a geologic hazard report DSA may elect to hold the project until a report is received, or to start the plan review process pending receipt of the report.

5.1 DSA will forward geologic hazard reports to the California Geologic Survey (CGS) (formerly known as the California Department of Mines and Geology) for review for projects within state mandated geologic hazard zones and for other projects as deemed required by DSA. CGS review of geologic hazard reports will take place concurrently with DSA review.

5.2 CGS will indicate either that a report is acceptable, or describe the reasons why a report is not acceptable, in a letter addressed to DSA and copied to the architect in charge of the project. The architect may submit a revised geological hazard report to DSA with copies to CGS. Projects for which a geologic hazard report is required by code will not be approved by DSA until CGS accepts the geologic hazard report.

6. Report Requirements. Geologic hazard reports must satisfy the following requirements:

- 6.1** The report must adequately describe the site to which it applies. The site described must include the locations of all structures to be constructed as part of the project.
- 6.2** The report must specifically address all of the potential hazards listed in paragraph 1.
- 6.3** The report must be based on adequate investigation and study of the project site.
- 6.4** Proper seismic shaking (e.g. peak ground acceleration) values must be used in project characterization.
- 6.5** Adequate documentation must be provided to support conclusions.
- 6.6** The report must be signed by a California registered geotechnical engineer or a California certified engineering geologist.
- 6.7** When geologic hazards are identified, the report must provide design recommendations for the mitigation of those hazards. If any changes to written recommendations are proposed after evaluation by CGS, then such changes must be submitted immediately to DSA in writing and forwarded to CGS for review.